
Birding Comoé National Park, Ivory Coast

Volker Salewski

Avec ses 11,500 km², le Parc National de la Comoé est le plus grand parc national de l'Afrique de l'Ouest. En comparaison avec les parcs de l'est et du sud africain, il est toutefois relativement peu connu de la communauté ornithologique. Au total, 494 espèces d'oiseaux et 51 espèces de mammifères, dont plusieurs taxons intéressants, y ont été observées. Le PN de la Comoé est situé sur un plateau granitique se trouvant en majeure partie à 250–300 m d'altitude. Le climat est caractérisé par une saison sèche (de novembre à mars) et une saison des pluies (de mars–avril à octobre) prononcées. L'auteur décrit les espèces d'oiseaux typiques des cinq habitats principaux: la savane, les plaines alluviales, les îlots de forêt dense, les forêts galeries, et les rivières et mares. Il fournit des renseignements sur les aspects logistiques d'une visite au parc, l'hébergement et les meilleurs endroits pour observer les oiseaux.

Birding has become more popular during recent decades and interested amateurs have contributed immense knowledge on birds in areas not regularly visited by scientists. In some areas birding tourism is well developed and plays a vital role in the local economy, helping to protect vulnerable areas and global biodiversity. Nevertheless there are some areas little known to birders and where scientific knowledge is also scarce. Such an area is Comoé National Park (hereafter Comoé). At 11,500 km², it is the largest such park in West Africa. Nonetheless, it is scarcely known outside this area. This is partly due to the lack of developed tourism in most of the region, it takes some effort to get there and facilities are not as good as many tourists from overseas demand. On the other hand, Comoé does not host the large numbers of mammals for which East African parks are famous. In Comoé only 54 species of larger mammals are recorded¹¹ (69 species are known from Serengeti). In contrast, 494 species of bird have been definitely reported and others are probable¹⁸, 96% of the 517 recorded in Serengeti¹⁹. These numbers are even more amazing considering the larger size of Serengeti and its higher birder coverage. As many taxa occurring in Comoé are endemic to West Africa, the park, as the largest remaining area of untouched savannah in the region, is a key locality for their protection. The park is known outside West Africa only to a few specialists but not to the wider public whose support is required for its protection. Only knowledge of the material value of the park can create serious awareness; this could be achieved through a stable tourist income.

The Park

Geography, Geology & Climate

Comoé is situated in north-east Ivory Coast near the borders with Burkina Faso and Ghana. It extends from

c08°30'–09°40'N and from 03°00'–04°30'W. The 100–200 m-wide Comoé river flows north to south through the park for c230 km and drains most of the area¹². The park is largely situated on a plateau at 250–300 m. Higher mountain ranges, up to 635 m, are Monts Yévélé and Monts de Tehini in the north and the Monts Potrou and Monts Boutourou in the south-east of the park. Inselbergs are found in several places. The most important villages around the park are Bouna (the park headquarters), Tehini Kafolo, Kong, Gansé and Kakpin.

As in most parts of northern Ivory Coast, the park consists of granitic plateaux. Along the Comoé river metamorphic slates are found. The soils are mostly ferralitic, often with a hard surface crust. They are classified generally as lithosols, the soils in the south-eastern part as ferruginous tropical soils.

Within the park lies the border between two climate zones, the subSudan zone in the south-west and the Sudan zone in the north-east³. Both are characterised by the distinct change between the rainy and dry seasons. The rainy season usually lasts from March–April to October for c7–8 months in the subSudan zone and eight months in the Sudan zone. It is characterised by high rainfall and less obvious daily temperature fluctuations. In the south, rainfall decreases in July and peaks in September. Humidity usually exceeds 90%. During the dry season (November–March) there is very little rainfall and the Harmattan, a hot dry wind from the north, blows. Daily temperature fluctuations are usually high and air moisture is below 30%. Annual rainfall varies from 1,100–1,300 mm, the average annual temperature is c27°C¹¹.

History

Formerly, the park area was sparsely populated due to Onchocercosis, Tsetse flies and insufficient soil fertility. Historically, the Koulango and Lobi tribes arrived

from the north and settled in the area of the park. Now, human population densities at the eastern and southern borders of the park are much higher⁹. Due to demographic development, pressure on the park is increasing from poaching throughout, fishing on the Comoé river, and agriculture and cattle in the northern fringe of the park.

The first moves to protect the area took place in 1926 when an area between the Comoé river and Bouna, to the east, became the Refuge Nord, which, in 1953, became the Réserve Totale de Faune de Bouna. Evacuation of the few settlements within the park commenced in 1953 and was completed c10 years later⁹. On 9 February 1968, the area, together with the Forêt Classé de Kong west of the Comoé river, was declared a National Park. Comoé is currently also a Man and Biosphere Reserve and a World Heritage Site.

Parallel with this development, there arose an interest in the ecology and economic potential of the park. Its fauna was investigated by Geerling & Bokdam in 1968⁷, in a study principally focusing on larger mammals. The potential for tourism was investigated by the Steigenberger Consulting GmbH in 1973¹³ and was followed by a biological and economic study by Lauginie⁹. These efforts culminated in a biological and ecological analysis as a basis for the development of tourism by the FGU⁶ in 1979. An aerial study of mammals in the park was undertaken by Steinhauer in 1977–1981²⁰. A permanent research camp of the University of Würzburg, Germany, was established in the south of the park in 1991, and was the base for several avian research projects^{2,8}. In spring 1994, a joint project of the Institut für Vogelforschung, Vogelwarte Helgoland, Wilhelmshaven, Germany, and the Institut für Verhaltensphysiologie, Vogelwarte Radolfzell, Germany, commenced studies of the ecology of Palearctic migrants in the park¹⁷. This project led to the discovery of eight new bird species for the park^{16,18} and to a series of other publications dealing with birds in the park^{14–18}.

Despite these activities, conditions in the park began to deteriorate in the 1980s. The road network has not been repaired since 1987. Other facilities such as guard posts have also not been maintained since then, and poaching, always a problem⁹, has increased. In 1990 the most comfortable hotel, the Calao in Gansé, closed. Programmes to reverse this development commenced in 1991 with a relatively ineffective five-year World Bank project. In 1996, the government with further World Bank assistance, provided equipment to all park staff. This had little tangible effect as no capacity-building exercise ensued and

few resources were mobilised to finance operation costs. At present, the European Union and GTZ (a German technical co-operation) are planning to finance a two-year WWF technical assistance project. A multi-donor programme is being developed to modify and improve the management of all parks in the country, including Comoé. Another five-year project (GEPRENAF) works with the park's peripheral communities to improve management of natural resources, including wildlife, in a sustainable and profitable way. GEPRENAF started in 1995 in three areas in Comoé: one is in Burkina Faso and the other two are adjacent to the park in Ivory Coast²³.

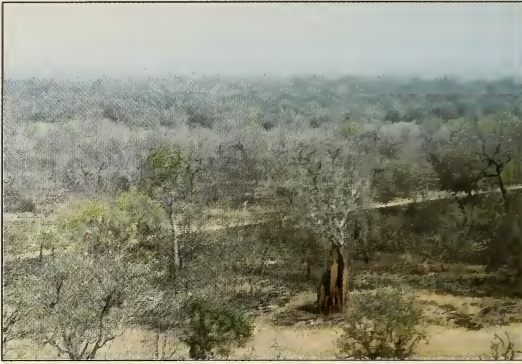
Habitats and birds

The park's high avian diversity is explained by the number of different habitats. In addition to savannah, there are forests, plains, montane regions and water-courses. Species, usually confined to the rain forest belt to the south or the Sahel zone further north (areas normally several thousand km apart), can be found in close proximity within the park (see below). In the following description only the main habitat types, for which some subdivisions exist, are characterised. For detailed information see Poilecot *et al*¹¹.

Savannah

Savannah is the main habitat in the park and covers c70% of its area¹¹. Several subdivisions are recognised with different dominant tree species on different types of soil. Tree cover is from 2–70%. Dominant tree species are *Crossopteryx febrifuga*, *Daniellia oliveri*, *Burkea africana*, *Terminalia avicennioides*, *Detarium microcarpum* and others. Between trees there is a herb layer up to 2 m high in which grass species such as *Brachiaria jubata* and *Adropogon africanus* are dominant. In some areas there is a less distinct boundary between savannah and savannah forests with *Isobertlinia doka* as the dominant tree species and tree cover reaching 70–90%. Species composition of savannah and savannah forest results from annual bush fires most of them man-made. These fires burn the entire savannah in November–January, from north to south¹¹.

Typical birds of the herb layer in the savannahs are Tawny-flanked Prinia *Prinia subflava*, Red-winged Warbler *Heliolais erythroptera* and Singing Cisticola *Cisticola cantans*, Whistling *C. lateralis* and other cisticolas, which can cause identification problems even for the experienced birder. Nine species of cisticola are known from the park. Typical of the savannah zone are Common Bulbul *Pycnonotus barbatus*, Yellow-fronted Canary *Serinus mozambicus*,



1



2



3



4



5



6

- 1 Dry season fires burn off the herbal layer in the savannah and the trees are without leaves. The gallery forest, in the background, is still green. Dust blown up by the Harmattan, a hot wind from the north, fills the air (Volker Salewski)
- 2 The major habitats in Comoé Park are the different types of savannah but gallery forest and isolated forests occur in the south (Volker Salewski)
- 3 During the rainy season the rivers, here the Iringou, fill with sediment-laden water (Volker Salewski)

- 4 In the rainy season the vegetation is lush and green, and the herb layer reaches up to 2 m in height (Volker Salewski)
- 5 A young elephant shot by poachers in the Comoé River (Volker Salewski)
- 6 Breeding colonies of Red-throated Bee-eater *Merops bullocki* are found in savannah throughout the Park (Volker Salewski)

Chestnut-crowned Sparrow-Weaver *Plocepasser superciliosus*, Yellow-mantled Widowbird *Euplectes macrourus*, Bush Petronia *Petronia dentata*, Red-cheeked Cordon-bleu *Uraeginthus bengalus*, Orange-cheeked Waxbill *Estrilda melpoda* and Black-faced Firefinch *Lagonosticta larvata*. Those familiar with calls will detect species such as Striped Kingfisher *Halcyon chelicuti* and Vieillot's Barbet *Lybius vieilloti* which are inconspicuous if not calling. Raptors typical of savannahs include Shikra *Accipiter badius*, Lizard Buzzard *Kaupifalco monogrammicus*, and Grasshopper Buzzard *Butastur rufipennis* and Black Kite *Milvus migrans*, which often gather near the man-made fires in December–January. Abyssinian Ground Hornbill *Bucorvus abyssinicus* often hunts grasshoppers and other prey close to fires. Ovambo Sparrowhawk *Accipiter ovampensis* is here probably represented by transequatorial intra-African migrants: the species breeds in southern Africa except for an isolated record in Kenya. However, information on migration is scarce and relatively unconvincing. Perhaps a nest may one day be discovered in the park, as it was of Black Sparrowhawk *A. melanoleucus*²¹. *A. ovampensis* has been observed in September–January at least, and additional information concerning its phenology in the region would be useful. A typical African migrant breeding in the savannah is Lesser Blue-eared Starling *Lamprolanius chloropterus* which appears in October and apparently breeds in April. Grey Hornbill *Tockus nasutus* can be seen in flocks of up to five birds and heard calling from October–April at least. Another intra-African migrant, which breeds in more northern regions and arrives in the dry season, is Carmine Bee-eater *Merops nubicus*, whilst Red-breasted *Merops bullocki*, Swallow-tailed *M. hirundineus* and Little Bee-eaters *M. pusillus* are year-round residents in the area. Palearctic migrants recorded in the savannah during the European winter include Willow Warbler *Phylloscopus trochilus* and Tree Pipit *Anthus trivialis*. Of most interest is the enigmatic Emin's Shrike *Lanius gubernator* which was recorded for the first time in the park by Balchin¹, who suggested it might breed here. Its nest is undescribed. Since then, the species has been regularly observed in the south-west of the park. Courtship feeding has been observed and a female with an incubation patch was mist-netted by K Falk in April.

Bowals/alluvial plains

Bowals are flat areas with laterite surface crusts and little soil. According to season their surface may be covered by water. Alluvial plains are often found beside the riparian forest of the Comoé river and separate it from the savannah. Their vegetation cover

is often less than 30%¹². Although of different origin, bowals and alluvial plains have some shared characters, eg lack of trees and bushes, and, during at least some seasons, bare ground.

Passerines attracted by the open areas include Flappet Lark *Mirafra rufocinnamomea*, the commonest lark of the area whose 'song', produced by a quick flapping of the wings, is more often heard than the bird seen. Sun *Galerida modesta* and Rufous-rumped Larks *Pinarocorys erythropygia* are also abundant. Chestnut-backed Sparrow Lark *Eremopterix leucotis*, a typical species of the Sahel zone, was discovered recently in the park¹⁶. Plain-backed Pipit *Anthus leucophrys* is the most abundant pipit, but there are also records of Richard's Pipit *A. novaeseelandiae*.

Non-passerines include breeding Forbes's *Charadrius forbesi* and Wattled Plovers *Vanellus senegallus*. Among the three species of thick-knees recorded in the park, Spotted Dikkop *Burbinus capensis* is found in this habitat, but it is worthwhile to check all thick-knees in open dry areas for Senegal Thick-knee *Burbinus senegalensis* which is usually restricted to water. More obvious is Abyssinian Ground Hornbill, which is usually seen in pairs, and Denham's Bustard *Neotis denhami*. With luck, a Secretary Bird *Sagittarius serpentarius* will be spotted, especially in the north of the park. Families of Four-banded Sandgrouse *Pterocles quadricinctus* are easier to see as are flocks of Helmeted Guineafowl *Numida meleagris*. Numerous raptor species occur, especially soaring vultures or eagles, of which White-backed *Gyps africanus* and White-headed Vultures *Trigonoceps occipitalis*, and Bateleur *Terathopius ecaudatus* are seen most frequently. It is surprising how often swifts or swallows are discovered, principally during autumn or spring migration, whilst observing such raptors, which would otherwise be overlooked.

Isolated forests

These forest patches, of varying size, are scattered through the savannah and are unconnected to riparian forests. Their origin and dynamics are not yet understood, although two theories have been advanced to explain their presence¹⁰: one suggests they are remnants of an older forest which covered the entire area before man cleared it, whilst the other regards them as originating from the typical vegetation around old termite mounds which is protected from fire by a ring of bare soil.

Two types of isolated forest exist¹²: wet forests are similar to riparian forests. Dominant tree species are *Cynometra megalophylla*, *Dialium guineense*,

Chlorophora excelsa, *Cola cordifolia* and, at their fringes, *Anogeisus leiocarpus*¹². Species of the lower vegetation strata include *Oxyanthus racemosus* and *Cassipourea congoensis*.

Dry forests are thought to be an extreme closed wooded savannah¹². Typical tree species are *Anisogeisus leiocarpus*, *Ceiba pentandra* and *Lannea kerstingii*, all of which are deciduous.

Mühlenberg *et al*¹⁰ discuss the undoubted importance of isolated forests for the forest fauna of West Africa, but no bird species is typically restricted to this forest type. A mixture of species has penetrated these forests from either the savannah or the riparian forest, making one of these forests worth visiting as they are sometimes close to the roads. Hornbills, raptors and Blue-bellied *Coracias cyanogaster* and Broad-billed Rollers *Eurystomus glaucurus* perch in the higher trees, and are more easily seen than in riparian forest. The same is true of species such as Klaas's Cuckoo *Chrysococcyx klaas* and Grey Woodpecker *Dendropicus goertae*. At the end of the rainy season, mixed-species flocks of Yellow-fronted Canary and widowbirds forage on the ground in more open parts of the forests. Pied Flycatcher *Ficedula hypoleuca* appears to prefer the open isolated forests¹⁷.

Riparian forest

Riparian forests occur along the Comoé river and its larger tributaries, eg the Iringou. Their width ranges between a few metres and several hundred metres. They are similar to the rainforests of further south but with lower species diversity. Close to the savannah fringe they become more open. Tree heights are higher than in savannah formations with species such as *Cynometra megalophylla*, *Cola cordifolia*, *Manilkara multinervis* and *Ceiba pentandra* reaching over 40 m¹². Smaller trees, up to 15 m high, include *Dialium guineense*, *Dyospyros abyssinica*, *Oxyanthus racemosus* and *Syzygium guineense*. A herb layer is rarely developed. Like isolated forests, riparian forest is not subject to savannah fires but vegetation cover decreases in the dry season as some species are deciduous.

For species of southern rainforests, the riparian forest serves as a corridor to penetrate into savannah regions which are normally out of their range. It is often difficult to observe many of the cryptic species in the dense forest understorey but if one is familiar with their voices one realises how abundant they are. Thrushes are well represented with Snowy-crowned Robin-chat *Cossypha niveicapilla*, Fire-crested Alethe *Alethe diademata* and Forest Scrub Robin *Cercotrichas*

leucosticta and babblers include Capuchin Babbler *Phyllanthus atripennis* and Puvél's Illadopsis *Illadopsis puvéli*, of which the first described nest was found in the park¹⁵, are quite common. Bluebill *Spermophaga haematina* can be found and Green Twinspot *Mandingoa nitidula* was recorded recently¹⁸. Among non-passerines, the ground-dwelling Forest Francolin *Francolinus lathami* and Crested Guineafowl *Guttera pucherani* are widespread, whereas Blue-throated Roller *Eurystomus gularis* is rarer. At night several species of owl can be heard, of which Bared *Glaucidium capense* and Wood Owls *Strix woodfordii* are the most common. The different calls of Pel's Fishing Owl *Scotopelia peli* are especially impressive. Vermiculated Fishing Owl *S. bouvieri* is rumoured to occur, but the species was not accepted by Thiollay²¹ or Dowsett & Dowsett-Lemaire⁴ in their Ivory Coast lists.

Rivers and pools

The park's largest river, the Comoé, flows for 230 km within the park. Like its largest tributaries, the Bawé, Boin, Iringou and Kongo, it contains water year-round, although there is no current during the dry season when it is rather a chain of pools. Its width varies from 100–200 m depending on locality and season, and it is usually fringed by riparian forest, which is less developed along smaller rivers. During the rainy season, the current is strong but in the dry season many islands, rocks and gravel areas emerge along its main course. These features are shared by the smaller rivers. During the rainy season many small rivers in the savannah are completely dry but for an occasional temporary waterhole or mudflat. Pools or mares are scattered throughout the savannah and riparian forest. These waterholes fill during the rainy season and the largest ones contain water throughout the year.

During high water levels it is difficult to find species usually associated with water at the rivers. This changes during the dry season when water levels are low. It is always a pleasure to stop at one of the viewpoints along the Comoé and check the riverbed for Cattle *Bubulcus ibis*, Little Egret *Egretta garzetta* and Great White Egrets *E. alba*. Goliath Heron *Ardea goliath* is also observed regularly and breeds in the park. White-backed Night-Heron *Gorsachius leuconotus* was recently discovered here, much further north in the country than previously¹⁸. Of the ten species of kingfisher, nine can be observed along rivers, eg Pied *Ceryle rudis* and Giant Kingfishers *Megaceryle maxima*. Reed Cormorants *Phalacrocorax africanus* and Senegal Thick-knees often use the

rocks in the river as perches. Many waders of Palearctic origin, eg Common *Actitis hypoleucos* and Green Sandpipers *Tringa ochropus*, as well as African species, eg Painted Snipe *Rostratula benghalensis* use the river. Bateleur and Grasshopper Buzzard regularly visit the river bank to drink, and African Fish Eagle *Haliaeetus vocifer* often perches on trees along the river. In the European winter they are joined by Ospreys *Pandion haliaeetus*. Swallows are often observed hunting over the water, especially in the dry season, and African Pied Wagtail *Motacilla aguimp* is regularly seen in pairs on the rocks in the river.

The ponds have no distinct avifauna but are most often used, when they are about to dry out, by Cattle Egret, Hamerkop *Scopus umbretta*, Woolly-necked Stork *Ciconia episcopus* and various waders.

Visiting Comoé National Park

I do not recommend visiting the park at the height of the rainy season (July–October) because of bad road conditions, high humidity and huge numbers of Tsetse flies. In November–December, there is still much water on some roads and ground vegetation is up to 2 m high. Following the fires in December the view is clear, and between then and April–May is probably the best time to visit. The roads are dry, humidity is low and Tsetse flies absent, although heavy showers can occur from late February. Both the intra-African and Palearctic migrants are also present in this period. In any case, the park is officially closed to tourists from May–December.

How to get there

Public transport

Coaches go to all big cities from the bus stations (eg STIF, UTB) in Abidjan/Adjamé regularly throughout the day (fare Abidjan–Bouaké: 3,000 FCFA in 1998). The south of the park is best reached by public transport from Bouaké. A bushtaxi runs to Nassian or Bouna almost every day, leaving in the morning but with no fixed timetable. The fare to Gansé or Kakpin including hotel and entrances to the park was 3,000 FCFA in 1998. In the rainy season your luggage will probably be soaked if, as is usual, it is stored on the roof. The trip takes c6 hrs. Alternatively you can travel from Bouna or Nassian on the east side of the park. A bushtaxi runs almost every day to Bouaké. From Bouna, it is also possible to reach Kafolo in the north of the park.

By car

The park is reached from Abidjan, via Bouaké and Katiola, on a good paved road as far as Katiola

(Abidjan–Katiola: 394 km). From Katiola, a recently paved road leads 86 km to Dabakala, the last big village with a market and petrol station before the park. The journey from Dabakala to Toupé (70 km), where a ferry crosses the Comoé, takes 1.5–2 hrs. Kakpin is reached after a further 16 km. The best way to reach the north of the park from Abidjan is via Bondoukou road (402 km). From there, a gravel road leads, via Nassian and Parhadi, to Kakpin and Gansé. North of Bondoukou, a newly paved road leads to Bouna and the park headquarters, from where a gravel road leads to Kafolo. This journey of 180 km takes 5–7 hrs. The Michelin map of Ivory Coast (1: 100000) is reliable and available in book stores in Abidjan and Bouaké.

By plane

An airstrip is situated c5 km south of Kakpin and is in good condition. To arrange a flight or hire a plane contact the Aeroclub Abidjan (Tel: 278363 or 277508). The airstrip in Kafolo is no longer in use.

Accommodation/Excursions

Several hotels of varying standard are situated around the park. All information was up-to-date in 1998.

Gansé:

Campement Touristique Ask for M. Francis, the owner, at the Katiola ferry. Very basic, round thatched huts for two people with a mosquito net. No showers or toilets. Basic African food on request. Price negotiable. The owner is also a park guide; other guides are available in the village. It is possible to take a 4 km boat trip (each way) which offers the possibility to see waterbirds and hippos. The Hotel Calao, mentioned in older travel guides, closed in 1990. In October 1997, the Haute Commissaire de Tourisme visited Gansé and talked about reopening the hotel, but this possibility appears doubtful.

Kakpin:

Campement Genette Situated inside the park next to the Eaux et Forêts station. Round thatched huts for two persons with a shower and toilet in each but no mosquito nets. Electric light (diesel generator) in the tourist season (December–April). Large restaurant with good African food and cold drinks served in the tourist season. Price 5,000 FCFA/hut per night. A car can be hired for trips to the southern parts of the park. Guides available in the village.

Club Kakpin Five km south of Kakpin near the airport. Air conditioned huts with two beds and bathroom, and a comfortable dormitory. Good African and European food, and cold drinks served. Price 10,000 FCFA per night and person excluding meals. An air condi-

tioned car can be hired for trips in the southern parts of the park. Address: Club Kakpin, B.P. 13, Parhadi. Tel: 35 84 70.

Kafolo

Safari Lodge The biggest hotel with 40 comfortable houses for two with bathroom (air conditioned: 21,500 FCFA/night; with ventilator: 16,500 FCFA/night, 40% less during 15 June–15 December). Large restaurant and separate bar. Excursion programme offering following trips: safari, 12,000 FCFA (children under 12 half-price); foot safari, 22,000 FCFA; excursion to a Lobi village, 8,000 FCFA; boat trip to the hippos, 4,000 FCFA (all prices in 1998). Address: Comoé Safari Lodge, B.P. 338, Ferkessedougou.

In the park

Roads

Park maps show a network of roads but most roads cannot be recommended for use. Those which can be used are the roads near the entrances at Gansé, Kakpin or Kafolo. From Kakpin or Gansé, two roads from the south meet near the Lola river. From here, the road leads north and is in driveable condition until Gawi. Elsewhere it is very bad, until you reach Gue Auto 50 km south of Kafolo. Small bridges have largely been washed away and it is necessary to ford most rivers, which is impossible in the rainy season. From Gue Auto the road is in a good condition until the northern park entrance, 10 km west of Kafolo, is reached. In 1996, the Gawi–Bania road 40 km south of Bouna was cleared providing an alternative route to the east. It should be borne in mind that the term “good condition” in the the park is a relative one: big holes in the roads can always occur, standing water may remain long after the rainy season and fallen trees can block the road. A four-wheel-drive car is highly recommended.

Points to visit

Rivers The Comoé can be approached at a series of viewpoints along the principal road through the park. In the south the best is at Plain de Buffles (on maps)/ Plain de Gansé (name given by guides). In the north there is a good view of the river at Gue Auto. In spring 1997, there was a shelter and benches from where a wide part of the river could be seen. It was possible to watch a breeding colony of Wood Ibis *Mycteria ibis* and the first breeding record of Marabou Stork *Leptoptilos crumeniferus* was made there¹⁸. Bigger bridges, over the rivers Yévélé, Boin and Kongo, are excellent to watch swallow species hunting over the water, especially in the dry season. The riparian forest at the mouth of the Iringou, reached by turning

onto the small road toward the Comoé south of the bridge, is especially interesting. After 2 km, leave the car at the forest fringe and follow a footpath to the mouth of the Iringou. I have recorded several bird species here which usually have a more southerly range.

Pools In the south, there are pools near Kakpin (not visible from the road), at Plain des Buffles/ Plain de Gansé, and between the rivers Lola and Kongo. In the centre of the park there is a mare by the road between Gawi and Bania, c16 km from Gawi. In the north, there is a mare c9 km south of Gué Auto. All offer the possibility to watch waders, herons, storks and Hamerkop from inside the car.

Plains/Bowals Several plains or bowals are situated adjacent to the principal road: Plain des Buffles/ Plain de Gansé along the Gansé–Lola road and by the river Lola. Several more can be found along the road through the centre of the park: the largest and most impressive bowal is c12 km south of Gué Auto.

Hills Several hills along the main road provide a good view over the park and are useful for observing soaring raptors. In the south, coming from Gansé, there is one c3 km before the junction with the Kakpin road. This hill is also used as a saline lick where animals take minerals. The most interesting inselbergs I know are next to the road connecting the principal road and the Gawi–Bania road but it is in very bad condition and not recommended. Adjacent to the Gawi–Bania road, there is a hill providing an excellent view 6 km east of Gawi. In the north the road passes outliers of Monts Yévélé. This area is interest-

- 7 Long-tailed Nightjar *Caprimulgus climacurus* is the most numerous nightjar in the park (Volker Salewski)
- 8 Hamerkop *Scopus umbretta* searching for prey in the shallow water of a drying pool in the savannah (Volker Salewski)
- 9 Male Black-winged Red Bishop *Euplectes bordeaceus*: one of the most colourful ploceids in the park's savannah (Volker Salewski)
- 10 Pied Flycatcher *Ficedula hypoleuca* is one of the most numerous Palearctic migrants in the park, and is principally found in open woodland (Volker Salewski)
- 11 Yellow-throated Longclaw *Macronyx croceus* is a typical bird of open plains (Volker Salewski)
- 12 African Pygmy Kingfisher *Ceyx pictas* is one of ten species of kingfishers found in the park (Volker Salewski)
- 13 Forest Scrub Robin *Cercotrichas leucosticta* is a typical bird of dense gallery forest, which is more often heard than seen (Volker Salewski)
- 14 Green Twinspot *Mandingoa nitidula* was recently discovered in the park (Volker Salewski)



8

9



10



11



12



13



14

ing but never take a stroll there without a guide and compass.

Isolated forest Isolated forests are regularly situated by the road in the south of the park. North of the Iringou they become rarer.

Behaviour in the park

The park was created to protect the unique wildlife of the largest savannah region in West Africa. Projects to improve the park, supported by the World Bank, European Union and WWF have commenced and any bad example given by visitors will make this task more difficult. If you enter the park, pay the entrance fee and hire a guide. You will find one in every village with a park entrance. This demonstrates to local people the economic benefits of the park. Once inside the park, try to keep your impact on nature to a minimum: do not disturb, catch or collect animals and plants. Stay on the road with your car. Do not light fires and do not drive at night. Take away all your litter. For personal safety do not travel alone, be sure your car is in a good condition, and that you have extra water, food and petrol. Although you may see poachers, this is unlikely as they try to avoid people. There is no personal danger, but never try to chase them or search for their camps. If signs of poaching are found, report them at the next Eaux et Forêts station. Even if it does not lead to direct action, it will demonstrate the problem and the interest of visitors in the protection of wildlife. Talk to the local people and the guards about your interests as often as possible.

Future of the park

Poaching has reduced the number of larger mammals, eg antelope species, buffalo and elephant, and therefore the attractiveness of the park to tourists. There is also pressure from the local authorities to permit agriculture in the park, but the main problem is that the authorities in Abidjan have not shown any interest in the area for many years. This is obvious from the condition of the roads and Eaux et Forêts buildings at the park entrances. The wardens are insufficiently equipped and not well paid. Projects are in progress to reverse these problems, but are of limited duration and it is doubtful whether any successes would perpetuate beyond the lifespan of the project. The establishment of tourism, especially ecotourism, in the park is required for a positive impact on the local economy which could convince local people that the park is a valuable resource. As mammals do not occur in the spectacular numbers present in East African parks, birders must represent the tourists most likely to visit the area. Publicity is required to make birders

aware of the unique possibility, afforded by Comoé, to experience the birdlife of a West African savannah.

Birders can also contribute to our scientific knowledge of the region which is still far from complete. Several authors^{1,3,22} have recorded new species during short visits to the park, and projects in which I have been involved have added eight new species. Williams²² reported three new species of Palearctic migrant in just two days. Data concerning intra-African migrants could prove even more valuable, for which even phenological information, gained through short visits, can help solve basic questions. Range extensions of some Sahelian species, eg Chestnut-backed Sparrow Lark^{16,21}, possibly due to climate change, also give such observations a particular importance.

Further reading

Comoé National Park

- Mühlenberg, M. and Steinhauer, B. 1981. *Parc National de la Comoé*. Heidelberg: Colordruck. Available in Abidjan and Bouaké (3,000 FCFA).
- Poillecot, P. 1991. *Un écosystème de savane soudanienne: Le Parc National de la Comoé (Côte d'Ivoire)*. Gilly: Imprimerie Bietlot. Excellent but difficult to obtain.

Birds

- Serle, W. and Morel, G. J. 1977. *A Field Guide to the Birds of West Africa*. London, UK: Collins. The only field guide for the region.
- Barlow, C., Wacher, T. and Disley, T. 1997 *A Field Guide to the Birds of The Gambia and Senegal*. Robertsbridge: Pica Press. A very useful guide which covers many species occurring in Comoé.
- Mackworth-Praed C. W. and Grant, C. H. B. 1973. *Birds of West Central and Western Africa*. Vol 1 and 2. London, UK: Longman. Covers all species but difficult to obtain and expensive.
- Keith, S., Urban, E., Fry, C. H., Brown, L. and Newman, K. (eds) 1982–97. *The Birds of Africa*. Vols 1–5. London, UK: Academic Press. Probably the best source of information about birds in Africa with excellent illustrations and text which will eventually cover all species.

Species lists

- Thiollay, J.-M. 1985. The birds of Ivory Coast: status and distribution. *Malimbus* 7: 1–59. Complete list of all 683 bird species recorded until 1985 in Ivory Coast with comments on habitat, status and distribution. Differences in distributional records in Comoé are listed in a separate publication¹⁶.

- Dowsett, R. J. and Dowsett-Lemaire, F. 1993. *A Contribution to the Distribution and Taxonomy of Afrotropical and Malagasy birds*. Tauraco Research Report No. 5. Liège: Tauraco Press. The most up-to-date list of the birds of Ivory Coast, comprising 694 species but only broad status (resident, migrant or vagrant) is given.

An extensive guide to Comoé for birders is in preparation. It will contain a list of all 494 recorded species and more of which the status is doubtful. Much more detailed information for people visiting the park will also be presented.

Acknowledgements

I thank F Bairlein and B Leisler who made my stay in the park possible and K E Linsenmair who allowed me to use the facilities of the University of Würzburg research camp. The Ministère des Eaux et Forêts de Côte d'Ivoire permitted my research work in the park. Thanks are also due to J-M Pavy for additional information and to L D C Fishpool who encouraged me to write this article. ☺

References

1. Balchin, C.S. 1988. Recent observations of birds from the Ivory Coast. *Malimbus* 10: 201–206.
2. Brendle, R. 1997. Populationsstudie an einer Waldvogelart (*Cossypha niveicapilla*, Turdidae) in einer Mosaik-Waldlandschaft der Subsudan-Savanne, Republik Elfenbeinküste. Ph-D thesis. Frankfurt: Johann Wolfgang Goethe-Universität.
3. Demey, R. and Fishpool, L.D.C. 1991. Additions and annotations to the avifauna of Côte d'Ivoire. *Malimbus* 12: 61–86.
4. Dowsett, R.J. and Dowsett-Lemaire, F. 1993. *A Contribution to the Distribution and Taxonomy of Afrotropical and Malagasy birds*. Tauraco Research Report No. 5. Liège: Tauraco Press.
5. Eldin, M. 1971. Le Climat. In *Le Milieu Naturel de la Côte d'Ivoire*. Mémoires ORSTOM 50: 73–108.
6. FGU-Kronberg GmbH 1979. *Etat actuel des Parcs Nationaux de la Comoé et de Tai ainsi que la Réserve d'Azagny et propositions visant à leur conservation et à leur développement aux fins de promotion du tourisme*. Vol 2. Kronberg.
7. Geerling, C. and Bookdam, J. 1973. Fauna of the Comoé National Park, Ivory Coast. *Biol. Conserv.* 5: 251–257.
8. Hovestadt, T. 1997. *Fruchtmerkmale, endozoochore Samenausbreitung und ihre Bedeutung für die Zusammensetzung der Pflanzengemeinschaft. Untersuchungen im Wald-Savannenmosaik des Comoé Nationalparks, Elfenbeinküste*. Berlin: W. & T. Verlag.
9. Lauginie, F. 1975. Essai de zoogéographie d'un

- milieu naturel protégé. Le parc national de la Comoé. *Ann. Univ. Abidjan* 7: 145–188.
10. Mühlenberg, M., Galat-Luong, A., Poilecot, P., Steinhauer-Burkart, B. and Kühn I. 1990. L'importance des îlots forestiers de savane humide pour la conservation de la faune de forêt dense en Côte d'Ivoire. *Rev. Ecol. (Terre Vie)* 45: 197–214.
 11. Poilecot, P. 1991. *Un écosystème de savane soudanienne: Le Parc National de la Comoé (Côte d'Ivoire)*. Gilly: Imprimerie Bietlot.
 12. Porembski, S. 1991. Beiträge zur Pflanzenwelt des Comoé-Nationalparks (Elfenbeinküste). *Natur und Museum* 121: 61–83.
 13. Rahm, U. and Bienek, B. 1973. *Etude des Parcs Nationaux. Côte d'Ivoire*. Frankfurt: Steigenberger Consulting GmbH.
 14. Salewski, V. 1997. The immature plumage of Sun Lark *Galerida modesta*. *Bull. ABC* 4: 136.
 15. Salewski, V. 1997. Discovery of the nest of Puvell's Akalat *Illadopsis puveli*. *Malimbus* 19: 34–36.
 16. Salewski, V. 1997. Notes on some bird species from Comoé National Park, Ivory Coast. *Malimbus* 19: 61–67.
 17. Salewski, V. 1998. Untersuchungen zur Überwinterungsökologie paläarktischer Singvögel in Westafrika unter besonderer Berücksichtigung der Wechselwirkungen zu residenten Arten. Ph-D thesis. Universität Oldenburg.
 18. Salewski, V. and Korb, J. 1998. New bird records from Comoé National Park, Ivory Coast. *Malimbus* 20: 54–55.
 19. Sinclair, A.R.E. and Arcese, P. (eds) 1995. *Serengeti II. Dynamics, Management, and Conservation of an Ecosystem*. Chicago: University of Chicago Press.
 20. Steinhauer-Burkart, B. 1987. Dénombrement et distribution des grands mammifères du Parc National de la Comoé (Côte d'Ivoire). Notes sur la grandeur des troupeaux et leurs saisons de reproduction. *Mammalia* 51: 283–303.
 21. Thiollay, J.-M. 1985. The birds of Ivory Coast: status and distribution. *Malimbus* 7: 1–59.
 22. Williams, E. 1997. Unusual records of Palaearctic warblers Sylviidae in Ivory Coast. *Malimbus* 19: 33–34.
 23. World Bank (ed) 1995. *Burkina Faso and Republic of Côte d'Ivoire. West Africa pilot community-based natural resource and wildlife management project*. Report No. 13868-CRG.

Institut für Vogelforschung. "Vogelwarte Helgoland". *An der Vogelwarte* 21. 26386 Wilhelmshaven. Germany.